ENVIRONMENTAL ASSESSMENT

EA Number: OR-080-04-07

BLM Office: Walter H. Horning Tree Seed Orchard, Salem District Office, 1717 Fabry Road SE, Salem, Oregon, 97306

Proposed Action Title: Spring Insecticide Treatment

Type of Project: Insecticide Application

Location of Proposed Action: Township 4 South, Range 3 East, Sections 13 and 23, Willamette Meridian located approximately 23 miles southeast of the City of Portland, Oregon.

Conformance with Applicable Land Use Plan: The proposed action is in conformance with the following documents: *RMP (Salem District Record of Decision and Resource Management Plan*), dated May 1995 which stated that seed orchards are to be maintained and managed to produce seed as needed for ecosystem management projects (Appendix E-2). It also addresses the need to plant improved stock on most of the harvested acres on the District requiring reforestation (RMP, Appendix E-1 and E-2). Beyond this direction in the Forest Genetics Program appendix and the provisions in the Resource Program sections for Energy and Mineral, Land Tenure Adjustments, Rights-of-Way, Access and Withdrawals, the RMP does not apply to the orchard which has been administratively withdrawn (RMP, p. 58).

Purpose of and Need for Action: This action proposes application of insecticide by direct injection in March of 2004 within the fenced boundaries of the Walter Horning Tree Seed Orchard, hereafter referenced as the Orchard, on selected target trees within orchard units located in Sections 13 and 23, Township 4 South, Range 3 East, Willamette Meridian in the Salem District of the Bureau of Land Management (BLM). The 800 acre orchard is located about 23 miles southeast of Portland, Oregon and about 40 miles north-northeast of Salem, Oregon and within Clackamas County. Figure 1 shows the Orchard location.

[1] Pursuant to BLM Handbook 1790-1, Rel. 1-1547, 10/25/88, page IV-11, it is appropriate to use this optional form when all the following conditions are met: 1/ Only a few elements of the human environment are affected by the proposed action; 2/ Only a few simple and straightforward mitigation measures, if any, are needed to avoid or reduce impacts; 3/ There are no program-specific documentation requirements associated with the action under consideration; 4/ The proposed action does not involve unresolved conflicts concerning alternative uses of available resources and, therefore, alternatives do not need to be considered; 5/ The environmental assessment is not likely to generate wide public interest and is not being distributed for public review and comment; and 6/ The proposed action is located in an area covered by an existing land use plan and conforms with that plan.

The Walter H. Horning Tree Seed Orchard was established in 1964 to produce improved conifer seed for BLM's western Oregon Districts. The seed produced is genetically diverse, and well adapted for reforesting a wide range of sites in western Oregon. In 2003 a Cooperative Agreement was initiated with the Oregon State Department of Forestry, the Confederated Tribes of Grande Rhonde, and six private timber and seed companies. This has enabled the BLM to more cost effectively manage the Orchard and make existing genetic material available to others. The cooperators share in the expenses of selected Douglas-fir, Noble fir, and other orchard units. The units range in age from eight to thirty years old, and the seed from these units is in high demand for reforestation and re-vegetation throughout northwest Oregon.

The purpose of the action is to control insects which cause damage and seed loss to Orchard cone crops. There is a need for control of cone insects on selected target trees in 11 seed production units (Figure 2) in which a cone crop is expected in 2004. Orchard units totaling 105.08 acres were stimulated for reproductive bud production in spring 2003 using GA 4/7 or overlapping, half-circumference girdles (thin cuts through the bark) followed with an application of calcium nitrate fertilizer on the ground around the tree's drip line. This method is commonly used in seed orchards and is projected to stimulate a cone crop of about 1,200 bushels in late summer 2004.

This project will involve those trees which are being used for open air pollination as opposed to controlled cross breeding which uses pollen exclusion bags because the bags also exclude insects. Although the total acreage included in these units is 105.08, the trees proposed for treatment will not uniformly cover all acres since they generally are individuals and/or in small groups in most of these units.

The need for this action is demonstrated by research which was conducted in 1983 at 17 different seed orchards in the western U.S. This research indicated an overall loss of 70% of the filled seed as a result of cone insect pests. The loss at Horning was 76% of the total potential seed. During the cone collection of 2003, similar losses were observed by crew members in the Douglas-fir and noble fir orchards. No insecticide treatments were conducted during 2003.

An intensive cone dissection study was conducted in 1998 under the direction of Beth Willhite, U.S. Forest Service entomologist for the Westside Forest Insect and Disease Center. Her reports indicate that the Douglas-fir cone gall midge (*Contarinia oregonensis*), and Douglas-fir coneworm (*Dioryctria abietivorella*) caused notable damage to the seed crop at the Orchard.

Orchard staff conducted additional cone insect damage studies on an operational basis each year from 1999 through 2003. The level of total damage from these two pests has been steadily increasing during this time. It is probable that damage would be at the same or increased level in 2004. Based on the experience of other tree seed orchards in the northwest, cone insect damage increases as orchards become older. The potential loss from insect-related damage in 2004 could be as high as 80% of available seed if insects are not controlled.

Insects were controlled in seven seed production orchards in spring of 2001 and 2002 by aerial

application of esfenvalerate. This resulted in a dramatic reduction in insect damage with a corresponding increase in seed yield.

The BLM and the Cooperators have a projected seed need from the Orchard of approximately 62 pounds of improved Douglas-fir seed and 139 pounds of Noble fir seed per year. This yield is used in critical reforestation activities on industrial land through out western Oregon annually. Protecting cone crops from insect damage is necessary to achieve this goal.

Description of the Proposed Action: A maximum of 600 trees located in 11 seed production units would be treated by orchard employees in March and April of 2004 with imidacloprid (trade name: Imicide) (Figures 3 and 4). Selected trees that are greater than two inches diameter at breast height (DBH) and bear reproductive buds would be injected with 3 ml pesticide capsules at the label recommended rate. The measured DBH in inches is divided by two to determine the number of capsules for that individual tree and applied at about 4 inches from the soil surface (J.J. Mauget Co. 2003). For example: a tree with an eighteen inch DBH would be injected with nine capsules. Specific trees are selected for this treatment based on the established need for their seed and this year's number of cone buds.

The treatment process involves drilling a 11/64 inch diameter hole at a 45 degree angle at the base of a tree (about 4 inches above ground level) through the bark 1/4-3/8 inch into the trees xylem or sapwood. A chemical flow injector tube is inserted snugly into this hole, and a pressurized capsule containing the chemical is attached. The chemical flow process is initiated by hitting the exterior of the capsule with a rubber mallet, releasing the chemical through the tube into the tree. Two hours later, the capsule has drained and it and the injector tube are carefully removed for disposal in a sanitary landfill. There is no need for special rinses or additional protective measures since the chemical remains within the tree.

The employees involved have been specially trained by the manufacturers authorized trainer in this technique and with this chemical.

Design Features (Shown in Bold):

This trunk-injected product is designed to be applied without exposing the environment to the product. The product remains in the tree's vascular system. **Orchard employees who will be applying the product have received training from the manufacturer's representative. These orchard employees will receive certification to legally apply Imicide to orchard trees**.

All PPE standards described on the product label and in agency policies will be adhered to; unlined neoprene gloves, goggles or face shield, long-sleeved shirts, and shoes with socks.

The risk associated with using Imicide is that the public (usually children) have been curious about the capsules since they are visible while the product is in the process of being taken up by the tree. It takes about two hours for the product to be released from the capsules. J. J. Mauget recommends that someone always remains with the capsules until removal. **In the case of the**

Orchard, the gates will be locked while there are capsules remaining in the trees. The capsules will not remain in the trees longer than necessary for the product to be injected. Orchard employees will be physically present in the treated areas until the project is complete.

After the product has entered the target tree, the capsules will be carefully removed directly into a black plastic bag and sealed for disposal in a sanitary landfill according to labeling directions.

Wash water will not be released into the environment.

No trees in sensitive or established buffer areas will be treated.

Consultation and Public Involvement:

ESA consultation: The Proposed Action is expected to have No Effect on any ESA-listed fish or wildlife species or their designated critical habitat. Since there will be no effects, no consultation is required with either U.S Fish and Wildlife Service or NOAA Fisheries. The Proposed Action will have No Adverse Effect on Essential Fish Habitat (EFH) for Coho salmon and Chinook salmon in either the Clackamas River or Molalla River sub-basins, therefore no EFH consultation with NOAA Fisheries is required.

Public Involvement: A scoping letter was made available on the internet for 7 days beginning February 24, 2004.

Affected Environment: The Orchard has been intensively managed, resulting in ecosystems comparable to agricultural landscapes. The affected environment is described in detail in the Draft EIS for IPM at Walter Horning Tree Seed Orchard (USDI Bureau of Land Management 2003), Ch 3-1, pp 3-27 which is incorporated here by reference. The following resources either are not present or would not be affected by the Proposed Action or any of the alternatives: air quality, areas of critical environmental concern, cultural resources, prime or unique farmlands, Native American religious concerns, Wild and Scenic Rivers, wilderness, minority populations and low income populations.

The Orchard has an extensive network of natural and marked buffers within the boundaries. These buffers are designed to protect riparian areas, adjacent private lands, and other sensitive lands from any impacts of Orchard management activities. Orchard activities are minimized within these areas which are at least 200 feet in width. The treatment described in this document will not be implemented in the buffer areas.

Environmental Impacts: The interdisciplinary team reviewed the elements of the human environment, required by law, regulation, Executive Order and policy, to determine if they would be affected by the proposed action. Table 1 summarizes the results of that review. Critical Elements of the Human Environment (BLM H-1790-1, Appendix 5) are in *italics*. Affected elements are **bold**. Unless otherwise noted, the effects apply to the proposed action; and the No Action Alternative is not expected to have adverse effects to these elements.

Imidacloprid (trade name: Imicide) is a systemic, chloronicotinyl insecticide that kills insects by contact or ingestion, interfering with the transmission of stimuli in the insect nervous system. The acute toxicity to mammals is moderate. Chronic toxicity to mammals, which occurs as a result of small, repeated doses of pesticide over a long period of time, is considered low (Oregon State University 2003).

Because the imidacloprid is in an encapsulated form and pesticide applicators would be required to wear the minimum protective clothing listed on the Imicide label, the effect of the proposed action to human health would be minimal.

Movement of Imicide is restricted to the vascular system of the tree being treated. The potential for imidacloprid to enter air, soil or water is negligible when using Imicide in the recommended way. Imicide products have been found in leaves and needles of treated trees following application. Transport of the products of Imicide to water in leaves and needles has not been studied but may be remotely possible. Vegetative buffers exceed 200 feet between the project areas and live water. No treated tree would be closer than 200 feet from live water. Ground cover in the orchards and vegetative buffer would be expected to intercept needles or leaves that may fall from treated trees preventing the movement of Imicide out of the project areas.

The primary target of the Imicide treatment would be the Douglas-fir cone gall midge and cone worm. Only the larval stages which feed on developing cones and seeds would be affected by Imicide (Overhulser 2002). Thus, the adult insects, which might be eaten by birds or fish, would not carry imidacloprid residues.

Effects to non-target species are expected to be minimal. Only insects feeding directly on sapwood, foliage, or cones of treated trees would come in contact with lethal concentrations of the insecticide. Any invertebrates directly exposed to imidacloprid could be affected, but effects on local populations are anticipated to be negligible. Populations of insects directly exposed to imidacloprid would be expected to decrease temporarily in the treatment area until the residues decrease and re-colonization occurs from surrounding areas. Some local insectivores may be temporarily affected by the decrease in insect populations until these populations recover.

There are no threatened, endangered or other Special Status wildlife species within the Orchard boundaries and therefore there are no effects to these species from the proposed treatment. Lower Columbia River steelhead trout are found in Clear Creek, approximately 1 mile downstream from the orchard. Upper Willamette River steelhead trout are found in Milk Creek, approximately five miles downstream from the orchard.

Table 1: Affected Elements of the Environment

Elements Of The Human Environment	Status: (i.e., Not Present , Not Affected, or Affected)	Does this project contribute to cumulative effects? Yes/No/NA	Remarks
Adverse Impacts on the National Energy Policy	*Not Affected*	*NA*	*There are no known energy resources located in the project area. The proposed action will have no effect on energy development, production, supply and/or distribution.*
Air Quality	*Not Affected*	*NA*	*This project involves direct injection of product and will not involve any spraying.*
Areas of Critical Environmental Concern	*Not Present*	*NA*	
Cultural Resources	*Not Affected*	*NA*	*This is not a ground disturbing activity.*
Environmental Justice (Executive Order 12898)	*Not Affected*	*NA*	*The proposed action is not anticipated to have disproportionately high and adverse human health or environmental effects on minority populations and low-income populations.*
Prime or Unique Farm Lands	*Not Present*	*NA*	
Flood Plains	*Not Present*	*NA*	*The proposed action does not involve occupancy and modification of floodplains, and will not increase the risk of flood loss.*
Hazardous or Solid Wastes	*Not Affected*	*NA*	*This project will not generate waste which will require special treatment.*
Invasive, Nonnative Species (plants) (Executive Order 13112)	*Not Present*	*NA*	
Native American Religious Concerns	*Not Affected*	*NA*	*All activities take place within the Horning Seed Orchard. Past notification for projects within this area have not resulted in tribal identification of concerns*
Threatened or Endangered (T/E) Fish Species or Habitat	*Not Affected*	*NA*	*This project will involve localized activities which are well outside of areas established for buffer purposes and well away from any habitat.*
Threatened or Endangered (T/E) Plant Species or Habitat	*Not Present*	*NA*	
Threatened or Endangered (T/E) Wildlife Species or Habitat	*Not Present*	*NA*	
Water Quality (Surface and Ground)	*Not Affected*	*NA*	*This project will not introduce chemical pesticide product into either surface or ground waters.*
Wetlands/Riparian Zones	*Not Affected*	*NA*	*This project is not located in Wetland or Riparian areas.*
Wild and Scenic Rivers	*Not Present*	*NA*	
Wilderness	*Not Present*	*NA*	
Aquatic Conservation Strategy Objectives	Not Affected	NA	The orchard is administratively withdrawn, see ACS table.
Coastal zone	Not Present	NA	
Fire Hazard/Risk	Not Affected	NA	This project will not increase fuel loading or fire risk

Elements Of The Human Environment	Status: (i.e., Not Present , Not Affected, or Affected)	Does this project contribute to cumulative effects? Yes/No/NA	Remarks
Fish Species with Bureau Status (except T/E) and Essential Fish Habitat	Not Present	NA	
Land Uses (right-of-ways, permits, etc)	Not Present	NA	
Late Successional and Old Growth Species Habitat	Not Present	NA	
Mineral Resources	Not Present	NA	
Recreation	Not Affected	NA	Recreational uses are authorized by permit only and will not be allowed in the project areas.
Rural Interface Areas	Not Present	NA	
Soils (productivity, erodibility, mass wasting, etc.)	Not Affected	NA	This is not a ground disturbing activity.
Special Areas outside ACECs (Within or Adjacent) (RMP pp. 33-35)	Not Present	NA	
Special Status(except T/E) and SEIS Special Attention Plant Species/Habitat	Not Present	NA	
Special Status (except T/E) and SEIS Special Attention Wildlife Species/Habitat	Not Present	NA	
Vegetation – Forest Environment	Not Affected	NA	The project will not occur in a general forest environment.
Visual Resources	Not Affected	NA	This project will not change any visual attributes of the orchard.
Water Resources – Other (303d listed streams, DEQ 319 assessment, Downstream Beneficial Uses; water quantity, Key watershed)	Not Affected	NA	The project involves highly localized areas and is well outside buffers established to protect water resources. Sensitive habitat for fish does not exist for at least one mile downstream from the Orchard boundary.
Water Use - Municipal and Domestic	Not Present	NA	

Interdisciplinary Team:

Resource	Name	Initial	Date
Cultural Resources	Frances Philipek	FMf	3/3/04
Hydrology/ Water Quality and Soils	Chester Novak	CN	3/1/04
Botany TES and Special Attention (including Survey and Manage) Plant Species	Claire Hibler	CH	3/2/04
Wildlife TES Species No effect	Roy Price	RP	3/2/04
Special Attention (including Survey and Manage) Animal Species No effect	Roy Price	RP	3/2/04
Fisheries No effect No Effect	Bob Ruediger	BR	3/9/04
Wild and Scenic Rivers/ Wilderness/Recreation Sites/ Visual Resources Management / Rural Interface	Laura Graves	LG	3/9/04

EA Prepared By: _____ Date: 3/2/2004

EA Reviewed By: _____ Date: 3/9/04
NEPA / Plans

FINDING OF NO SIGNIFICANT IMPACT and DECISION RECORD

Based upon my review of this EA (Environmental Assessment Number OR-080-04-07), I have determined that the proposed action is not a major federal action and will not significantly affect the quality of the human environment, individually or cumulatively with other actions in the general area. No environmental effects meet the definition of significanhce in context or intensity as defined in 40 CFR 1508.27. Therefore, an environmental impact statement is not needed. I have also determined that the proposed action is in conformance with the approved land use plan. It is my decision to implement the proposed action, as described in the **EA.**

Right to Appeal: This decision may be appealed to the Interior Board of Land Appeals (Board), Office of the Secretary, in accordance with the regulations contained in 43 Code of Federal Regulations (CFR), Part 4 and the Form 1842-1. If an appeal is taken, your notice of appeal must be filed in this office within 30 days from receipt of this decision. The appellant has the burden of showing that the decision appealed from is in error.

If you wish to file a petition pursuant to regulation 43 CFR 4.21 (58 FR 4939, January 19, 1993) or 43 CFR 2804.1 for a stay of the effectiveness of this decision during the time that your appeal is being reviewed by the Board, the petition for a stay must accompany your notice of appeal. **A** petition for a stay is required to show sufficient justification based on the standards listed below. Copies of the notice of appeal and petition for a stay must also be submitted to each party named in this decision and to the Board and to the appropriate Office of the Solicitor (see 43 CFR 4.413) at the same time the original documents are filed with this office. If you request a stay, you have the burden of proof to demonstrate that a stay should be granted.

Standards for Obtaining a Stay: Except as otherwise provided by law or other pertinent regulation, a petition for a stay of a decision pending appeal shall show sufficient justification based on the following standards:

(1) The relative harm to the parties if the stay is granted or denied,
(2) The likelihood of the appellant's success on the merits,
(3) The likelihood of immediate and irreparable harm if the stay is not granted, and
(4) Whether the public interest favors granting the stay.

Implementation Date: Implementation of this decision may begin 30 calendar days after the public notice of the Decision Record appears in the Molalla Pioneer.

Contact Person: For additional information concerning this decision or the appeal process, contact Greg Tyler at (503) 630-8406 or Carolyn Sands at (503) 315-5973, Cascades Resource Area, Salem District, 1717 Fabry Road, Salem, Oregon 97306.

Authorized Official Denis Williamson Date March 11, 2004

Denis Williamson, District Manager
Salem District

APPENDIX 1: Aquatic Conservation Strategy Objective Review Summary

Table 3. Aquatic Conservation Strategy Objective Review Summary. This table documents the predicted effects on the nine ACS (Aquatic Conservation Strategy) Objectives identified on pages 5-6 of the Salem District Resource Management Plan, dated May 1995, if the proposed action was implemented.

Aquatic Conservation Strategy Objectives	Does the project retard or prevent attainment of this ACS objective? Yes/ No	Remarks / References If yes, how? If no, why not?
1) Maintain and restore the distribution, diversity, and complexity of watershed and landscape-scale features to ensure protection of aquatic systems to which species, populations and communities are uniquely adapted.	No	This project is of limited scope and will not affect this objective.
2) Maintain and restore spatial and temporal connectivity within and between watersheds.	No	Same as above.
3) Maintain and restore physical integrity of the aquatic system including shorelines, banks and bottom configurations.	No	Same as above.
4) Maintain and restore water quality necessary to support healthy riparian, aquatic, and wetland ecosystems.	No	Same as above.
5) Maintain and restore the sediment regime under which aquatic ecosystems evolved.	No	Same as above.
6) Maintain and restore in-stream flows sufficient to create and sustain riparian, aquatic, and wetland habitats and to retain patterns of sediment, nutrient, and wood routing.	No	Same as above.
7) Maintain and restore the timing, variability, and duration of floodplain inundation and water table elevation in meadows and wetlands.	No	Same as above.
8) Maintain and restore the species composition and structural diversity of plant communities in riparian areas and wetlands.	No	Same as above.
9) Maintain and restore habitat to support well-distributed populations of native plant, invertebrate, and vertebrate riparian dependent species.	No	Same as above.

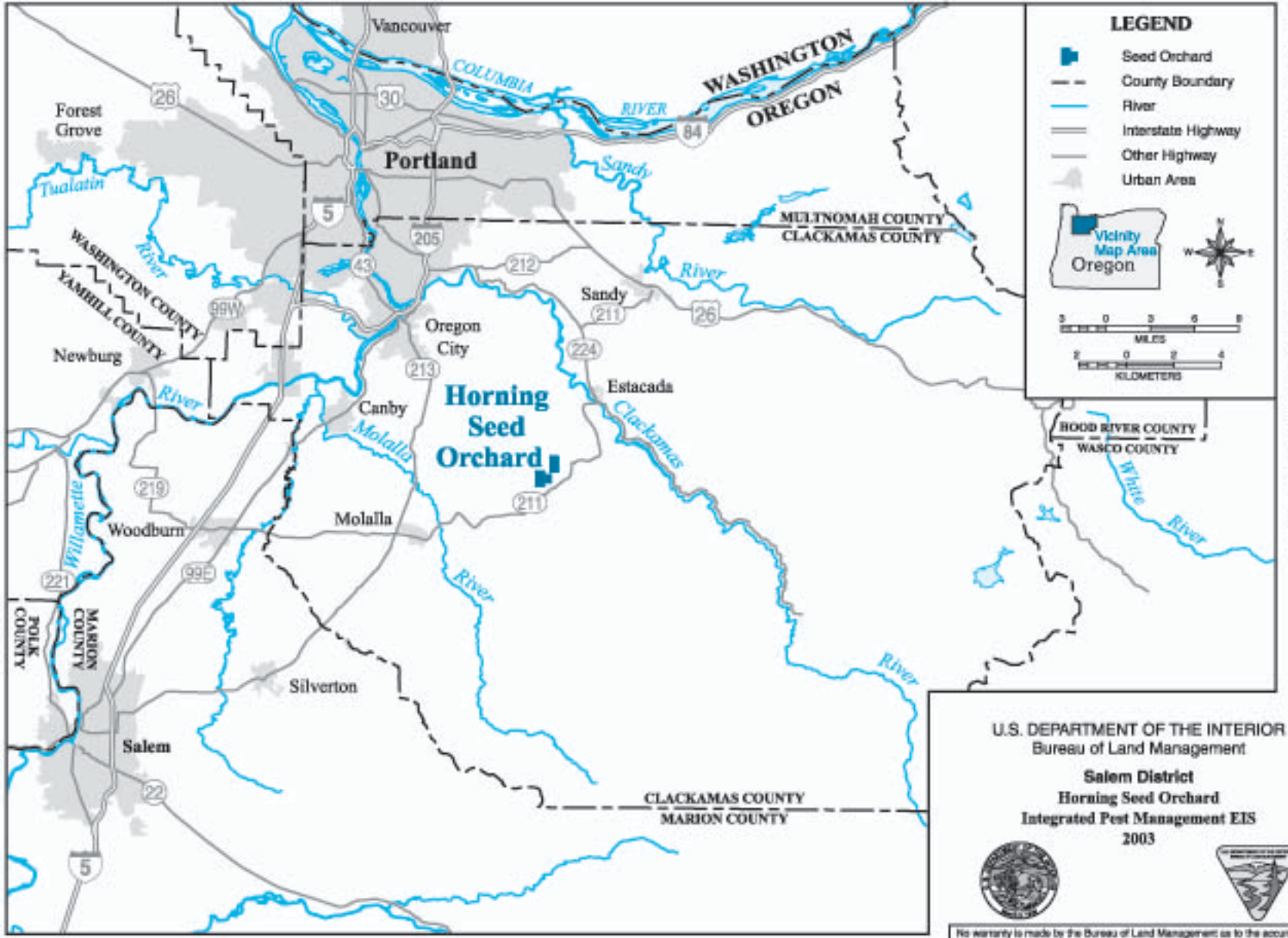
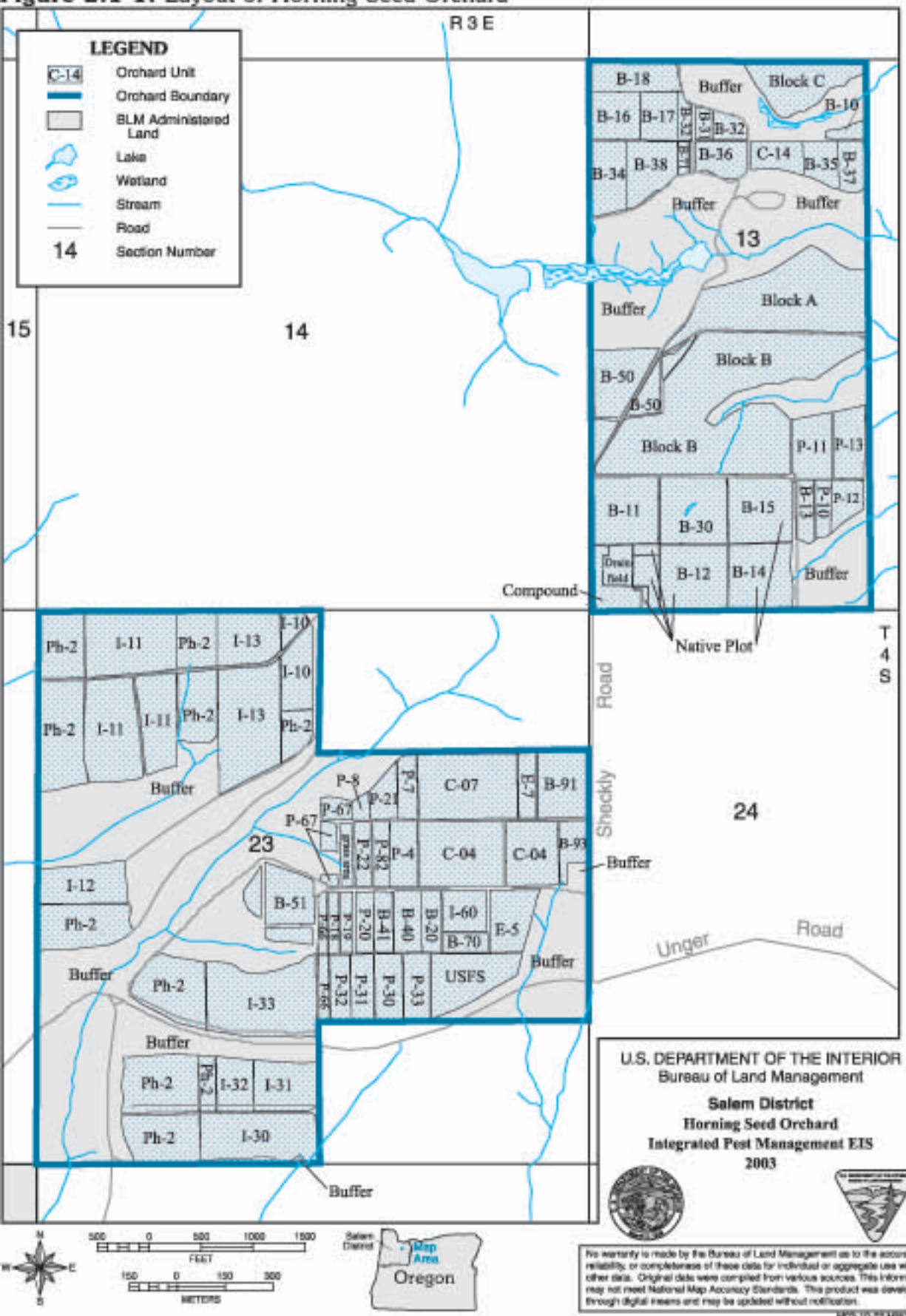


Figure 1.2-1: Location of Horning Seed Orchard

Figure 2.1-1: Layout of Horning Seed Orchard



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Integrated Pest Management EIS
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